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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference OPP040032KR	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/KR 2004/002731	International filing date (day/month/year) 27 October 2004 (27.10.2004)	Priority Date (day/month/year) 29 October 2003 (29.10.2003)
International Patent Classification (IPC) or national classification and IPC IPC⁸: H04Q 7/30 (2006.01); H04B 7/26 (2006.01); H04B 7/208 (2006.01); H04L 12/28 (2006.01)		
Applicant ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE		

1. This international preliminary examination report has been prepared by this International Preliminary Examination Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I. ☒ Basis of the opinion
- II. ☐ Priority
- III. ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV. ☐ Lack of unity of invention
- V. ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI. ☐ Certain documents cited
- VII. ☐ Certain defects in the international application
- VIII. ☐ Certain observations on the international application

Date of submission of the demand <div style="text-align: center;">27 May 2005 (27.05.2005)</div>	Date of completion of this report <div style="text-align: center;">22 February 2006 (22.02.2006)</div>
Name and mailing address of the IPEA/AT Austrian Patent Office Dresdner Straße 87 A-1200 Vienna Facsimile No. 1/53424/200	Authorized officer <div style="text-align: center;">ENGLISCH M.</div> Telephone No. 1/53424/565

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International application No.

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I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed

☐ the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____.

☐ the claims:

pages _____, as originally filed

pages _____, as amended (together with any statement) under Article 19

pages _____, filed with the demand

pages _____, filed with the letter of _____.

☐ the drawings:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____.

☐ the sequence listing part of the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____.

☐ the claims, Nos. _____.

☐ the drawings, sheets/fig _____.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as „originally filed“ and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

Form PCT/IPEA/409 (Box I) (July 1998))

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement			
Novelty (N)	Claims	---	YES
	Claims	1-12	NO
Inventive step (IS)	Claims	---	YES
	Claims	1-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims	---	NO

Citations and explanations (Rule 70.7)

The following documents have been cited in the Search Report:

D1: Eklund et al., IEEE standard 802.16: "A technical overview of the WirelessMAN™ air interface for broadband wireless access." In: IEEE Communications Magazine, Volume 40, Issue 6, June 2002.

Pages 98-107, XP011092870

D2: US2003/0198179A1

D1 gives an overview about the technical medium access control and physical layer features of the WirelessMAN™ air interface according to the IEEE standard 802.16. The use of the ranging requests and responses are described in detail. During initial access, the subscriber station (SS) performs initial power leveling and ranging using ranging request (RNG-REQ) messages transmitted in initial maintenance windows. The adjustments to the SS's transmit time advance, as well as power adjustments, are returned to the SS in ranging response (RNG-RSP) messages. For ongoing ranging and power adjustments, the base station (BS) may transmit unsolicited RNG-RSP messages commanding the SS to adjust its power or timing. Because the BS is in control and directly monitors the uplink signal quality, the protocol for changing the uplink burst profile for an SS is simple: the BS merely specifies the profile's associated UIUC whenever granting the SS bandwidth in a frame. So transmission specific settings are adapted according to the changing channel conditions in connection with a bandwidth request.

Furthermore, it is explicitly mentioned that extensive bandwidth allocation and QoS mechanisms are provided, the details of scheduling and reservation management are left unstandardized and provide an important mechanism for vendors to differentiate their equipment.

The present application features a preamble-based bandwidth request method for a wireless portable Internet system, comprising the steps of receiving a bandwidth request code from a subscriber station, transmitting state control information (RNG-RSP) based on a channel state to the subscriber station and allocating an uplink resource for transmission of a bandwidth request message to the subscriber station.

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Box V (page 1)

Accordingly, all features of claims 1 to 12 of the present application can be found in D1 and therefore said claims are not new and do not involve an inventive step.

D2 relates to a ranging method for a BWA (Broadband Wireless Access) system, and more particularly to a ranging method for a mobile communication system using an OFDMA (Orthogonal Frequency Division Multiple Access) scheme. According to D2 the ranging procedure is classified into three categories, namely an initial ranging process, a bandwidth request ranging process and a maintenance ranging process (a periodic ranging process), according to the objectives. Especially the second category, the bandwidth request ranging process seems to be a ranging process in close relation to an ordinary bandwidth request.

However, D2 does not describe in detail the features of the bandwidth request ranging process and therefore merely defines a wider state of the art.

Industrial applicability is given.